# PPC-5050

## 15” TFT Panel PC Ver 1.x

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# Chapter 1 Product Information

## 1.1 General Information

The PPC-5050, 15" LCD TFT Panel PC, takes advantages of modern flat-panel display, POS-566/370 CPU board, drive spaces and power supply for minimum size. It is an IBM PC/AT compatible computer specially designed to meet the applications for industrial environment.

**CPU Board**

PPC-5050 is designed for POS-566/370 CPU board. The POS-566/370 board is a LPX specification board, which equipped with high performance socket 370 Celeron Pentium III® CPU, LCD/CRT and 10/100Mbps Ethernet, designed for the system manufacturers, integrators, or VARs to provide all the performance, reliability, and quality.

**LCD Display**

The PPC-5050 is equipped with a 15" TFT LCD.

**Power Supply**

The standard industrial power supply of PPC-5030 is equipped with ACE-915A.

**Touch Screen (option)**

Dynapro resistive touch screen.

**HDD, FDD & CD-ROM**

It is suggested to be equipped with one 2.5” internal HDD, one slim FDD, and one slim CD-ROM.

## 1.2 Product Specifications

- Disk Drive Bay: Support one 2.5" HDD, one slim FDD, and one slim CD-ROM.
- Best solution for Panel mount man machine interface.
- Dimensions : Front Panel: 410mm x 309mm x 9mm (WxHxD)
  Cabinet: 383.6mm x 282.6mm x 93.4mm (WxHxD)

- **LCD Display:** 20-pin LCD connector interface to support screen reverse function.

| **Display Model** | **NEC** |
|---|---|
| Display Type | 15” TFT color |
| LCD model | NL10276BC30-04F |
| Resolution | 1024x768 |
| Max. colors | 24 bits |
| Brightness | 200 cd/$m^2$ |
| LCD MTBF | 50,000 hrs |
| Backlight MTBF | 25,000 hrs |
| Supply Voltage | 5V |

- **Dynapro Touch Screen (option)**
  Type: Analog Resistive
  Resolution: Continuous
  Light transmission: Typical value 72%
  Surface Hardness: 4H (Test condition: ASTM D3363-92A)
  8-wire touch screen
  Support driver: Supports DOS, Windows 3.1, 95, 98, NT.

- **Environmental specifications**
  Operating Temperature : 0 ~ 50$^o$C
  Relative Humidity: 5~85% @40$^o$C , non-condensing
  Vibration: 5 to 17 Hz, 0.1"double-amplitude displacement,
  17 to 500 Hz, 1.5 G peak to peak.

- **Industrial Power Supply: ACE-915AP series Power Supply**
  High reliability triple outputs switching Power Supply with height 40.6mm only
  Standard Power Supply: ACE-915AP
  Optional Power Supply: ACE-915A, ACE-815A/ AP and ACE-815T
  Operating temperature: -20$^o$C to 70$^o$C, operating curve will occur at 50$^o$C ~70$^o$C
  Vibration: 10-55Hz at 2G 3 min. period, 30 min. along X, Y, and Z axis
  Shock: 10G for 20ms once on each X, Y, and Z axis

Safety: meet UL1950/TUV: EN60950

EMI: meet FCC class B /CISPR:EN 55022 class B/CE: Harmonic EN61000-3-2

- **Specifications of POS-566 CPU Board:**

  The POS-566/566L 450MHz K6-3 / Pentium® Processor Multimedia POS Control SBC provides the following specifications:

  - **CPU**: Pentium® MMX up to 233Mhz, AMD® K6®/K6®-2/K6®-3 up to 450MHz, IDT C6, Cyrix 6x86MX, etc. Processor
  - **RAM**: 3x DIMM sockets up to 768MB SDRAM
  - **Cache memory**: 512KB Pipelined Burst SRAM on board
  - **Bus**: PCISA bus expansion to support ISA and PCI bus signal
  - **Chipset**: Ali 5, support 100MHz CPU clock
  - **LCD/CRT Controller:** CHIPS 65555 2MB EDO RAM on board
  - **Support 3.3V or 5V flat panel.**
  - **Support Mono, Color STN, TFT, EL,.. wide range flat panel.**
  - **Optional One Channel or Two Channels LVDS module.**
  - **10/100Mbps Ethernet Controller:** Realtek RTL8139 IEEE 802.u 100 BASE-TX standard Dual Auto-sensing interface to 10MBps or 100MBps networks

    RJ45 connector for 10BASE-T and 100BASE-TX

    Full duplex capability, full software driver support.
  - **Creative Sound Blaster 16 compatible and Roland MPU401 UART Mode compatible**
  - **Four high speed Serial ports** : three RS-232C, one RS-232C, or RS-422/485 Port
  - **Parallel Ports :** Two SPP/EPP/ECP Parallel Ports
  - **Enhanced IDE Interface** :

    One 44-pin Header for 2.5" HDD

    One 40-pin Header for 3.5" HDD
  - **PCISA™ Bus Expansion to support ISA and PCI bus signal**
  - **Isolated Digital I/O**: 4 Digital Inputs and 4 Digital Output channels

- **IrDA port: Support Serial Infrared (SIR) and Amplitude Shift Keyed IR (ASKIR) interface.**
- **Two USB ports: Support dual USB ports for future expansion.**
- **Watchdog timer**: Can be set by 1, 2, 10, 20, 110 or 220 seconds period. Reset or NMI is generated when CPU does not periodically trigger the timer.
- **$E^2Key^{TM}$ Function**: A special designed 1Kbit EEPROM (non volatile memory) provided to accept read/ write data by customer's program. It is useful to store system ID, Password, Critical Data on the board.
- **Keyboard connector**
- **Mouse**: PS/2 Mouse Port on-board.
- **Power Consumption**: +5V/5.5A (AMD K6-2 350MHz, 384MB SDRAM)

  +12V: 170mA , -12V : 60mA
- **Support ATX and AT power supply**
- **Operating Temperature**: 0° ~ 60° C ( CPU needs Cooler)
- **Operating Humidity**: 5-95% non-condensing

- **Specifications of POS-370 CPU Board:**

  The POS-370 socket 370 Celeron Pentium III® Processor Multimedia POS Control SBC provides the following specifications:

  - **CPU**: Celeron Pentium III® (up to 1GMhz).. Processor
  - **RAM**: 2x DIMM sockets up to 1GB SDRAM.
  - **Bus**: PCI bus expansion to support .
  - **Chipset**: SIS630, support 133MHz CPU clock
  - **LCD/CRT Controller:** On chip SIS300
  - **Support 3.3V or 5V flat panel.**
  - **Support Mono, TFT, EL... wide one channel that panel.**
  - **Optional One Channel or One Channel LVDS module.**
  - **10/100Mbps Ethernet Controller:** On chip SIS900 LAN BASE-TX standard Dual Auto-sensing interface to 10MBps or 100MBps networks

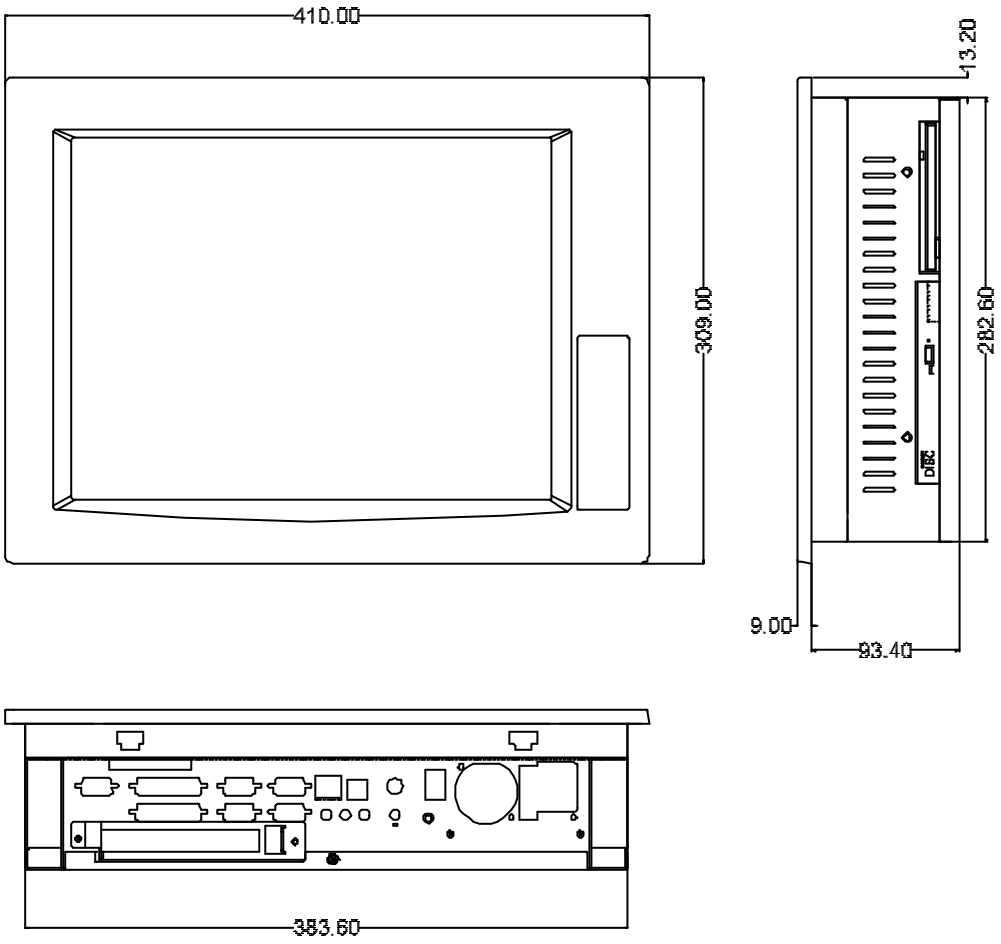
RJ45 connector for 10BASE-T and 100BASE-TX
Full duplex capability, full software driver support.

- On CHIP AC97 SIS 7018
- **Four high speed Serial ports** : three RS-232C, one RS-232C, or RS-422/485 Port
- **Parallel Ports :** Two SPP/EPP/ECP Parallel Ports
- **Enhanced IDE Interface** : (DMA 66)
  Two 40-pin Header for 3.5" HDD
- **PCI Bus Expansion to support PCI bus signal**
- **Isolated Digital I/O**: 4 Digital Inputs and 4 Digital Output channels
- **IrDA port: Support Serial Infrared (SIR) and Amplitude Shift Keyed IR (ASKIR) interface.**
- Five **USB ports: Support dual USB ports for future expansion.**
- **Watchdog timer**: Can be set by 1 min.(min.) period.
- **Keyboard connector**
- **Mouse**: PS/2 Mouse Port on-board.
- **Power Consumption**: +5V/6.5A (see POS-370 manual))
- **Support ATX and AT power supply**
- **Operating Temperature**: 0° ~ 60° C ( CPU needs Cooler)
- **Operating Humidity**: 5-95% non-condensing

## 1.3 Mechanical Dimension

Front Panel: 410mm x 309mm x 9mm (WxHxD)

Cabinet: 382.6mm x 282.6mm x 93.4mm (WxHxD)

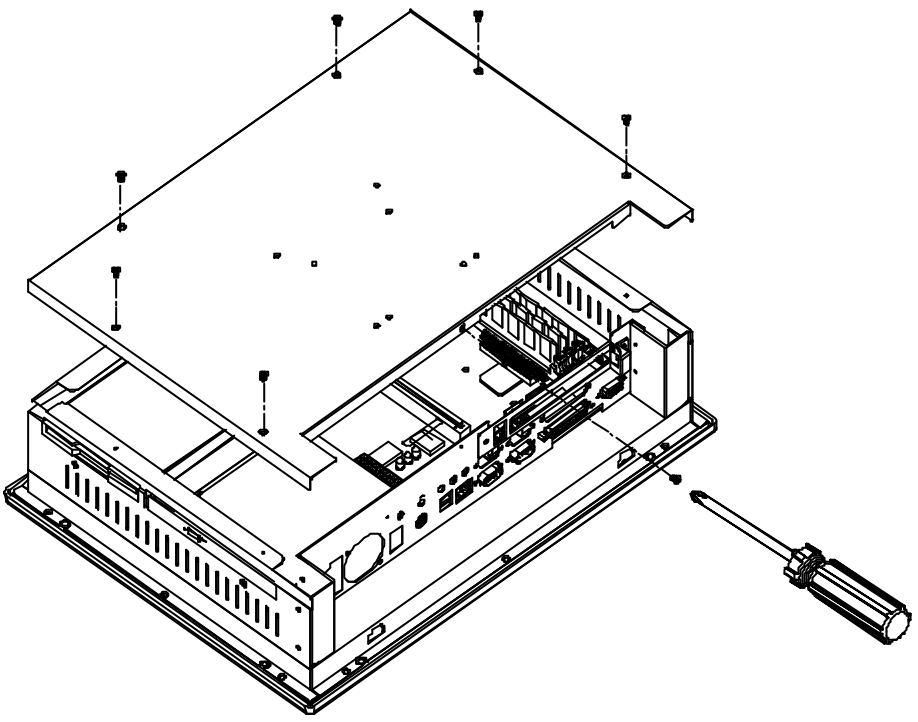


# Chapter 2 System Setup

The PPC-5050, 15" LCD TFT Panel PC, is provided complete kit for your operation. The following sections of this chapter will help your installation and maintenance.

## 2.1 The Reverse Side of PPC-5050

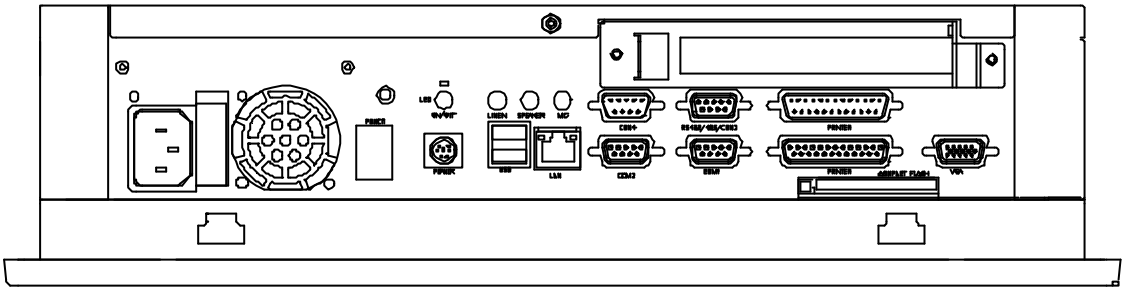
The below diagram shows the reverse side of PPC-5050. For maintenance, installation or upgrade, you have to remove the back cover first by unfastening 7 screws as the diagram shown.



**Warning:** Before any installation/un-installation, please notice any effects of static electricity.

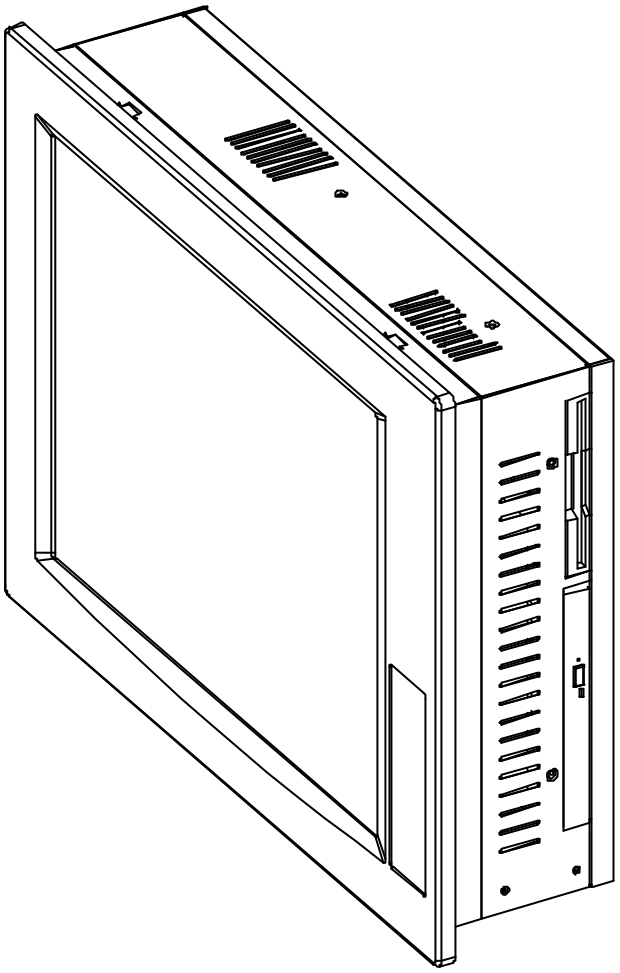
### 2.2.1 The Reverse Side of the Rear Cabinet

The below figure indicates the reverse side of the rear cabinet.



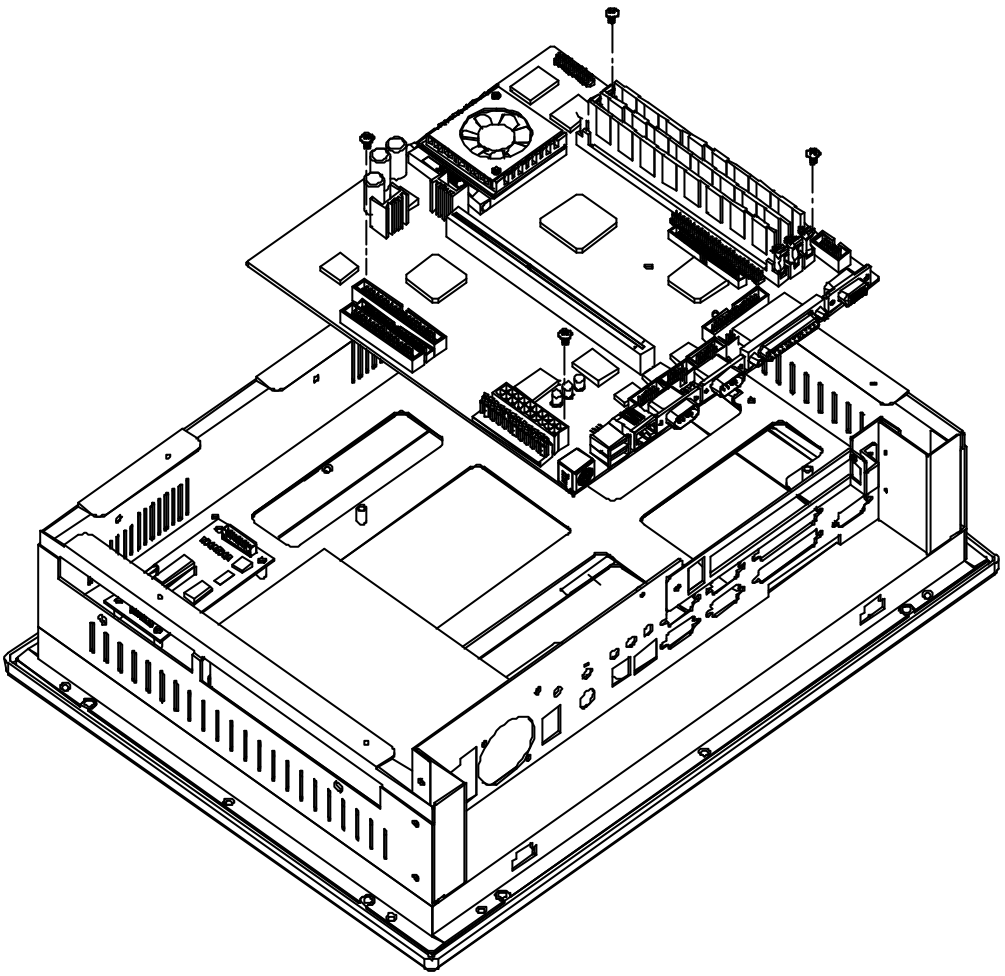
## 2.2 The Side View of PPC-5050

One FDD and CD-ROM are accessible for your operation on the driver frame.



## 2.3 POS-566/370 CPU Board Installation

To install the POS-566/370 CPU Board, you have to place the board into the cabinet and then fasten it by four screws.

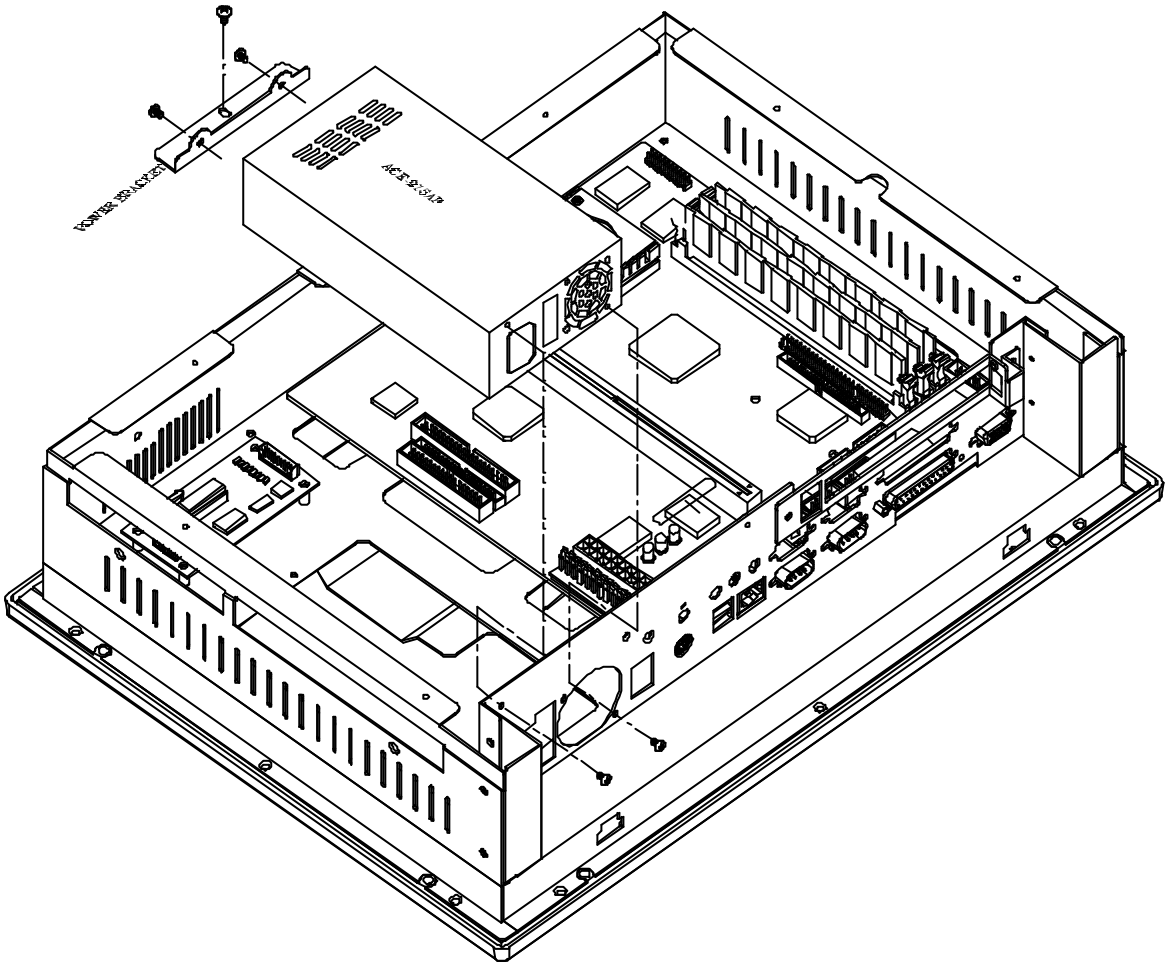


## 2.4 Power Supply Installation

The standard Power Supply for PPC-5050 is ACE-915AP, which has to be fastened to the power bracket by 2 screws , and to be installed in the cabinet by fastening 3 screws as below diagram shown.

**Output Spec. at 50° C**

| Model | Input Voltage | Rated Load | | | | Max Output | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | +5V | +12V | –12V | -5V | +5V | +12V | -12V | -5V |
| ACE-915AP | 90V to 264VAC | 10A | 2.5A | 0.1A | 0.1A | 14A | 4A | 0.3A | 0.2A |

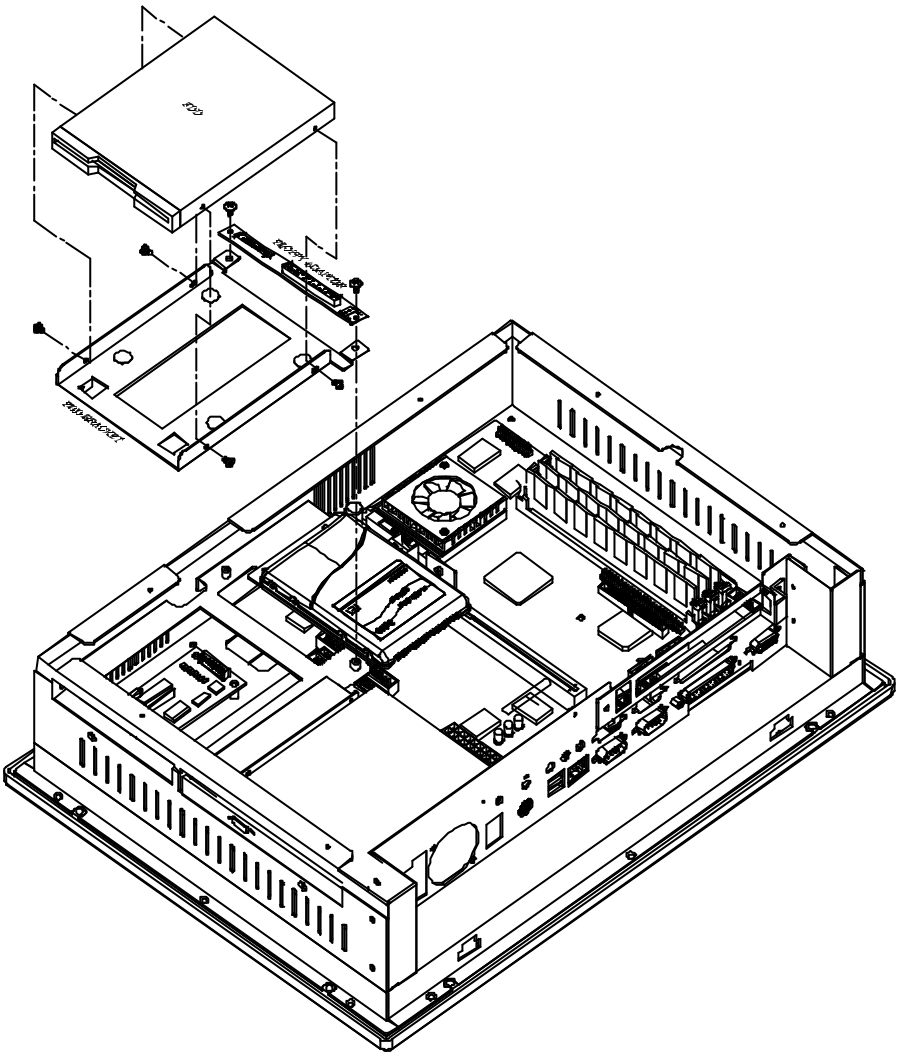


## 2.5 Drive Disk Installation

Following sections will introduce you how to install HDD, FDD and CD-ROM.
For the HDD, FDD and CD-ROM are installed in the cabinet, thus you have to open the back cover first if you want to install , upgrade or replace them.

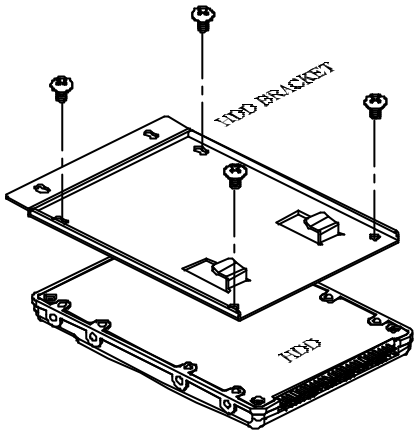
### 2.5.1 FDD Installation

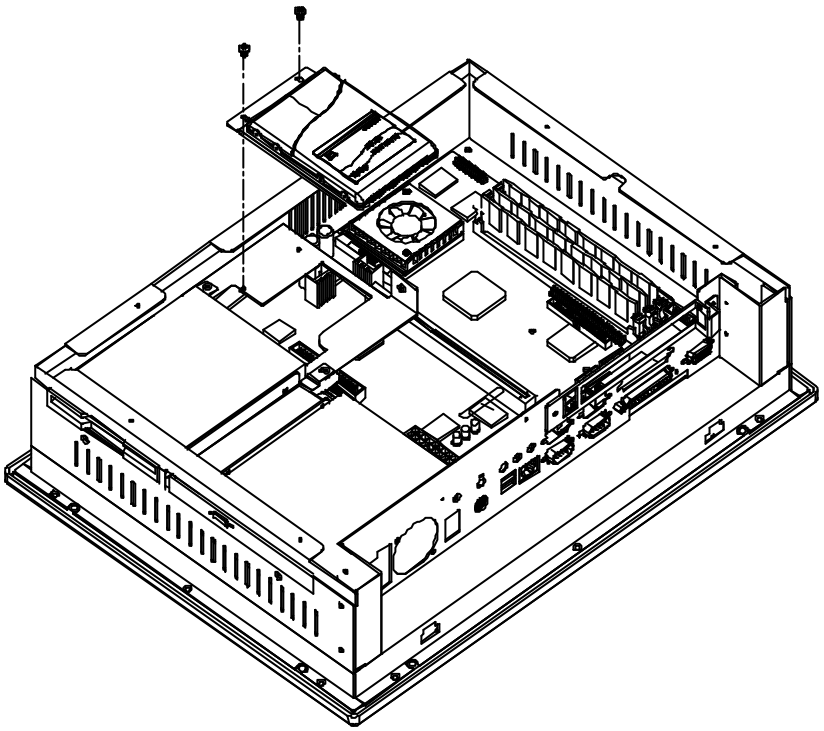
It's very easy to install the FDD. First, fasten the FDD to the Floppy Chassis by 4 screws, then fasten it with the Floppy Adapter to the cabinet by 2 screws.



## 2.5.2HDD Installation

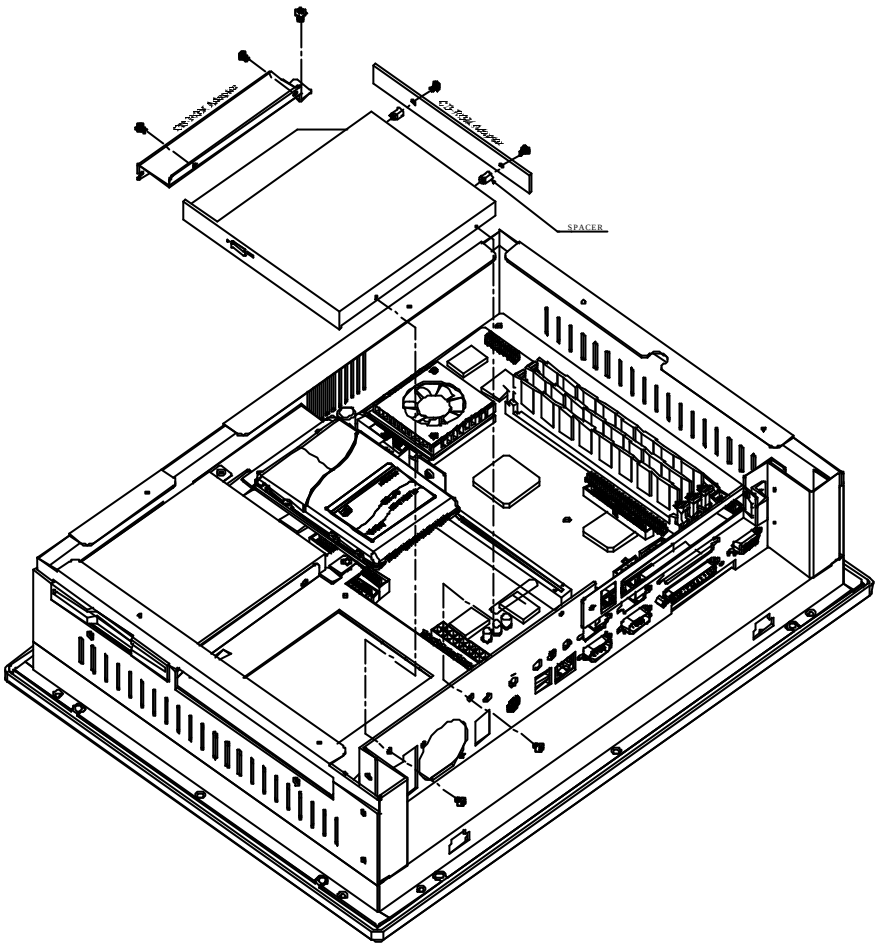
To install the HDD, you have to assemble the HDD to the HDD bracket first. Then, fasten the HDD bracket to the cabinet by 2 screws.



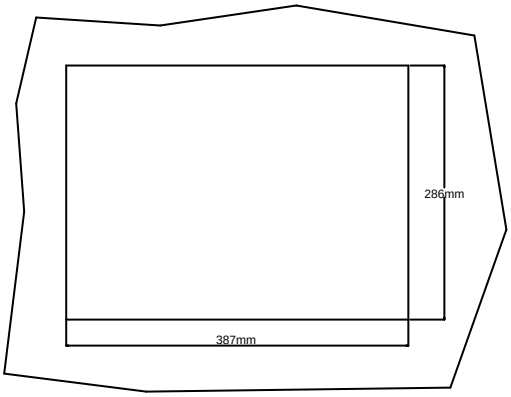
## 2.5.2 CD-ROM Installation

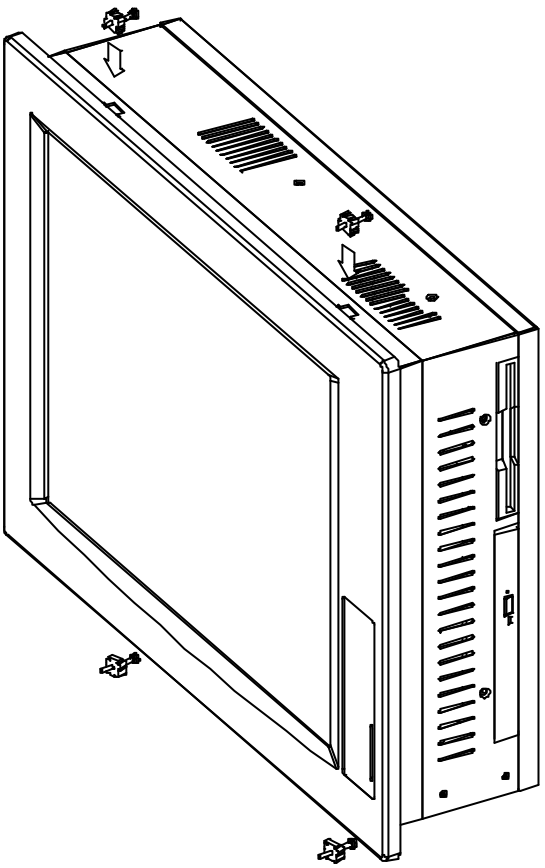
To install CD-ROM. You have to assemble the CD-ROM into the bracket, then fasten the CD-ROM Adaptor to the CD-ROM. Finally you have to fasten this unit to the cabinet.



## 2.6 Panel Mounting

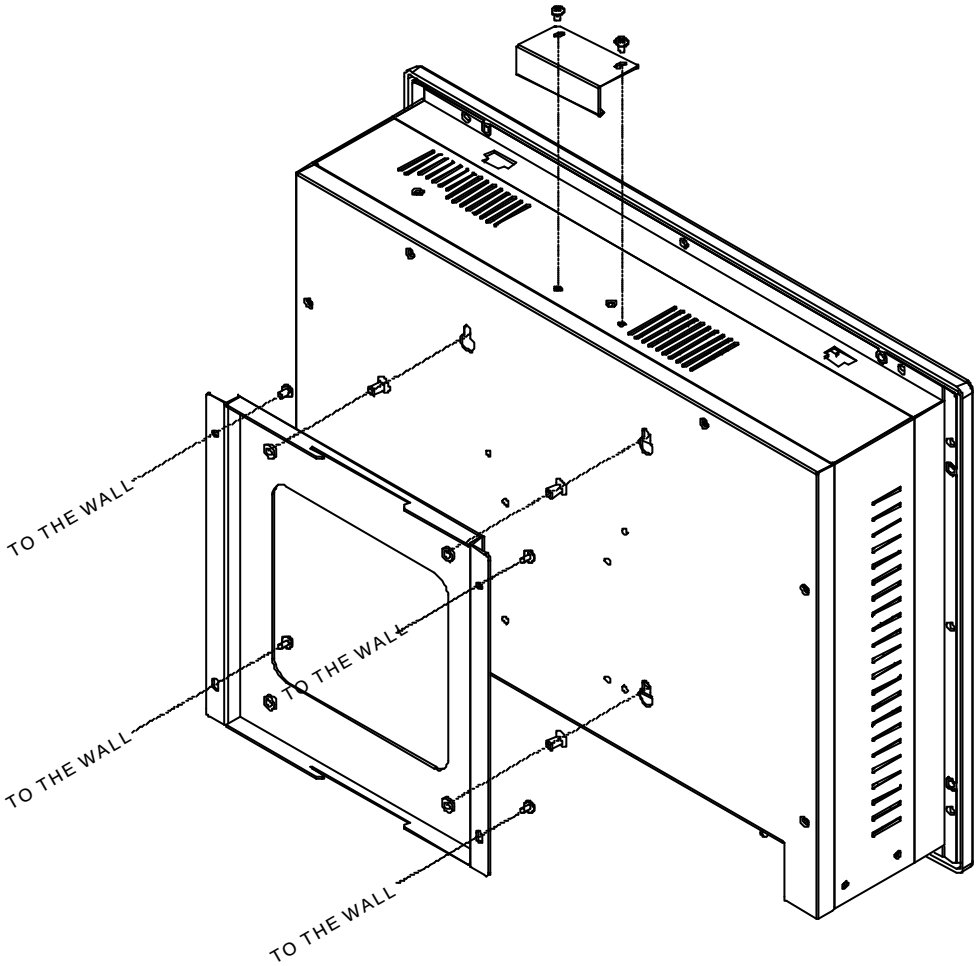
PPC-5050 is designed for panel mounting. Before mounting the PPC-5050 into panel, you have to check the cut out dimension first. Then mount it into panel by four supporters. Please refer to diagrams below.



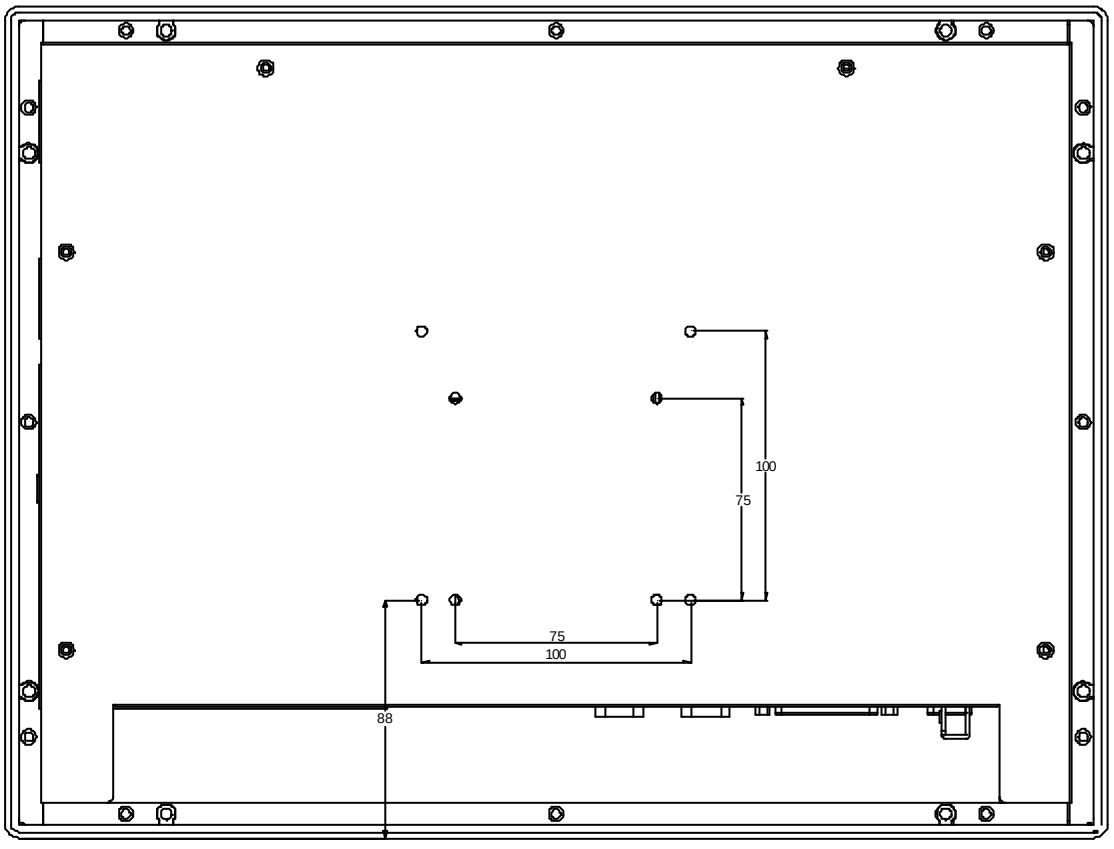
## 2.7 Wall Mounting

**PPC-5050 is suitable for Wall mount.**



## 2.8 Arm Mounting

PPC-5050 is not only suitable for panel mounting but also for 75/100mm interface pads for arm mounting; and the specification conform to the proposed VESA standard.



# Chapter 3 Maintenance

There are some essential parts you need to know during the operation for the purpose of maintenance or upgrading.

## 3.1 CPU Board

PPC-5050 is equipped with a POS-566/370 CPU card and a 15" LCD. You need to unfasten the some screws and disconnect interface cables to take the CPU Board out for maintenance or upgrading. Please refer to the section 2.2.

## 3.2 Power Supply

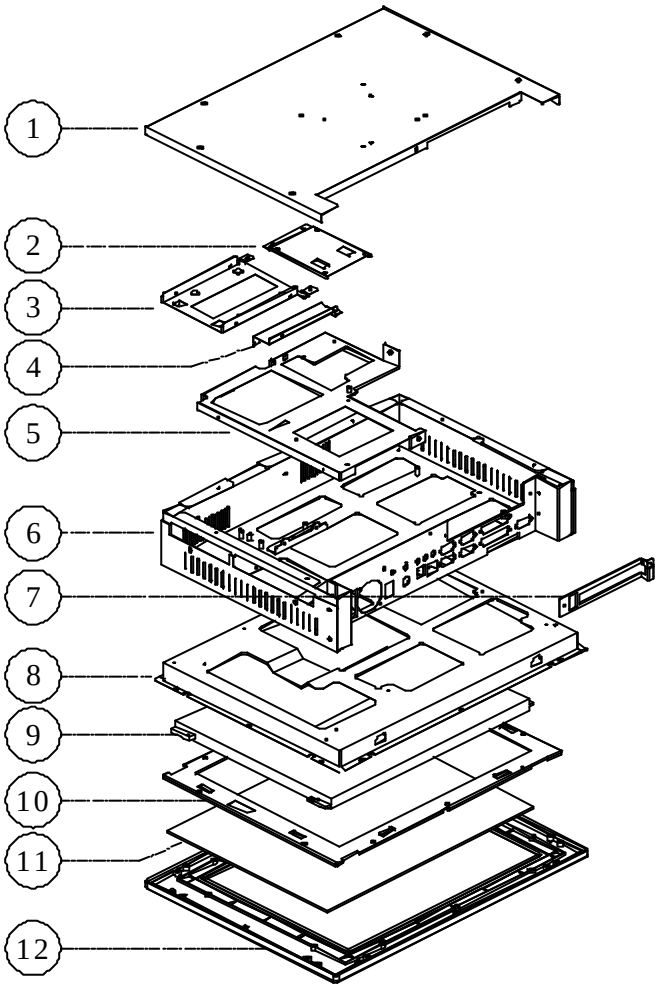
PPC-5030 is equipped with ACE-915AP series power supply. So you need to unfasten the some screws to take it out for maintenance or upgrading. Please refer to the diagrams of section 2.3.

**Warning: Whenever you need to take off a part for either maintenance or upgrading purpose, you should switch off the power supply and unplug the power cord first.**

## 3.3 Disk Drives

PPC-5050 provides one 2.5" HDD, one SLIM FDD, and one SLIM CD-ROM. To maintain or upgrade, please refer to section 2.4.

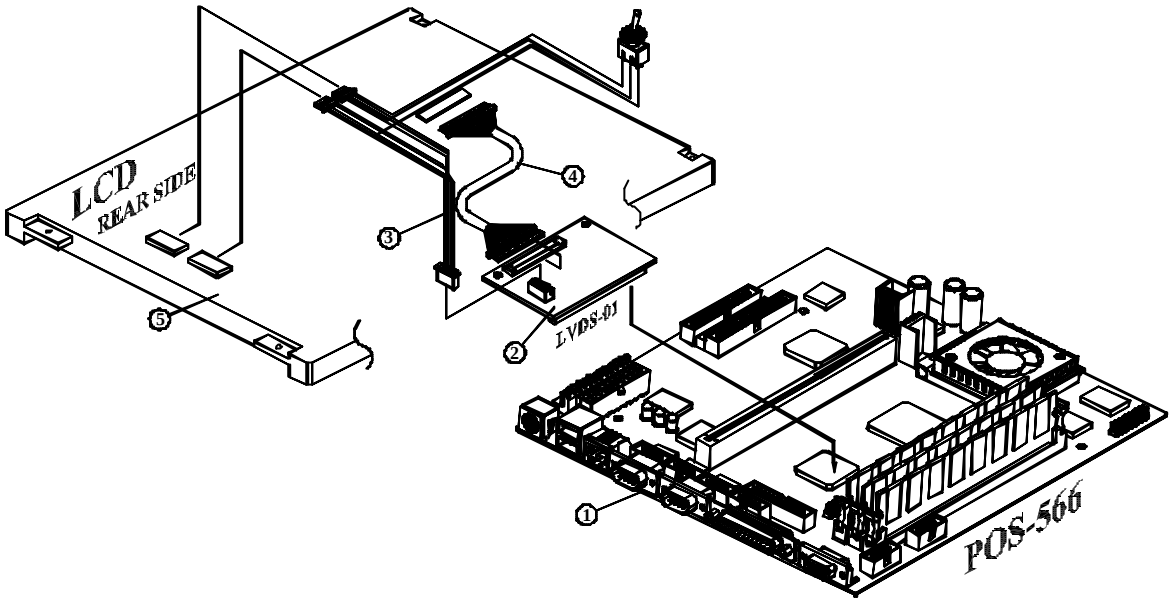
# Appendix A Exploded Diagram



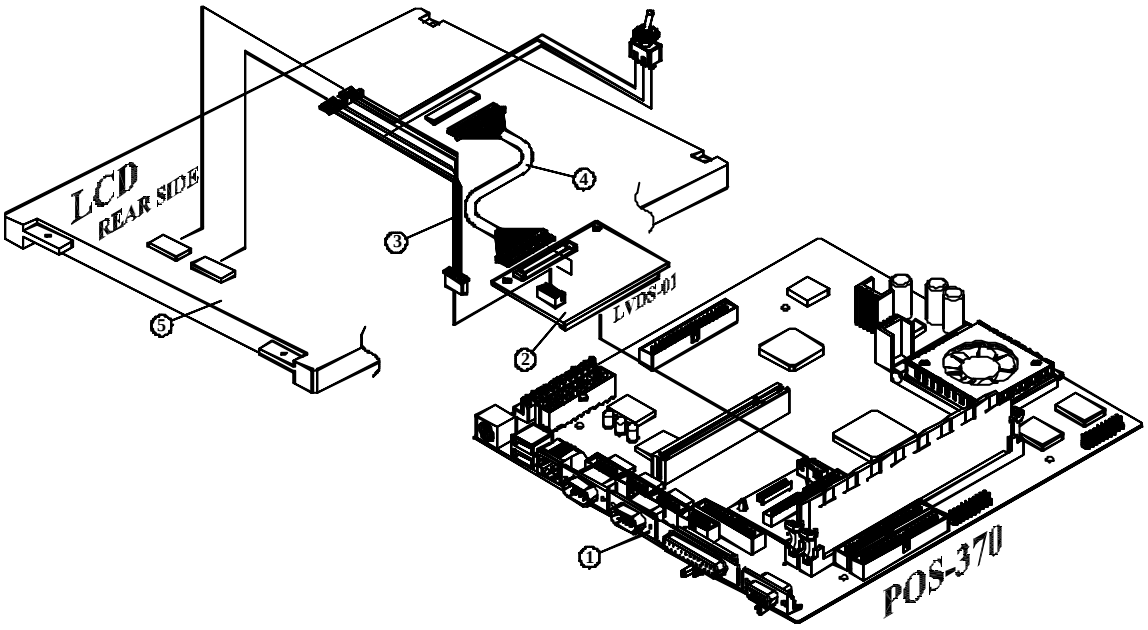

| ITEM | DESCRIPTION | PART NO. | Q' TY |
|---|---|---|---|
| 1 | BACK COVER | 41022-006023 | 1 |
| 2 | HDD BRACKET | 41011-014700 | 1 |
| 3 | FDD BRACKET | 41011-014800 | 1 |
| 4 | CDROM BRACKET | 41011-014900 | 1 |
| 5 | DRIVERS BRACKET | 41011-014623 | 1 |
| 6 | CABINET | 41002-005823 | 1 |
| 7 | PCI HOLDER | 41005-007723 | 1 |
| 8 | LCD BRACKET | 41017-010023 | 1 |
| 9 | 15" TFT LCD | 23000-000028 | 1 |
| 10 | TOUCH PANEL HOLDER | 41014-011402 | 1 |
| 11 | TOUCH PANEL | 48113-333257 | 1 |
| 12 | FRONT PANEL | 43001-002301 | 1 |
| | | | |
| | | | |
| | | | |

# Appendix B Display Interface

### B-1: For POS-566




### B-2: For POS-370




| ITEM | DESCRIPTION | PART NO. | Q'TY |
|---|---|---|---|
| 1 | POS-560/370 | POS-560(POS-370) | 1 |
| 2 | LVDS-01 | LVDS-01 | 1 |
| 3 | WIRE CABLE/TOGGLE SW | 32100-040400 | 1 |
| 4 | DF14-20S-1.25C/100cm | 32000-022200 | 1 |
| 5 | NEC:NL-10276BC30-04F | 23000-000028 | 1 |

# Appendix C Touch Panel Controller

The optional touch screen provides RS232 interface and the wire diagram of the controller is as the below figure shown.